

What is claimed is:

1. A lighting apparatus using microwave energy, comprising:

a magnetron disposed inside a casing, for generating microwave

5 energy;

a waveguide for guiding microwave energy;

a resonator providing a resonant region in which the microwave energy
is resonated;

a bulb disposed inside the resonator, and filled with a material which
10 emits light, when excited by the microwave energy; and

a rear mirror integrally fixed to a rear of the bulb, for forwardly reflecting
light rearwardly emitted from the bulb.

2. The apparatus of claim 1, wherein the rear mirror is formed in a
15 hemispherical shape having a curved shape.

3. The apparatus of claim 2, wherein the bulb is positioned at a
focal point of the curved surface of the rear mirror.

20 4. The apparatus of claim 1, wherein the rear mirror is made of a
quartz material.

5. The apparatus of claim 1, further comprising a fixed mirror fixed

to the casing at a rear side of the bulb and having a hole in which a bulb stem rearwardly extended from the bulb is rotatably inserted, for forwardly reflecting light emitted to the rear of the bulb.

5 6. The apparatus of claim 5, wherein a diameter of the hole of the fixed mirror is formed to be smaller than a width of the rear mirror.

7. The apparatus of claim 5, wherein the fixed mirror is formed in a hemispherical shape having a curved shape.

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8. The apparatus of claim 7, wherein the bulb is positioned at a focal point of the curved surface of the fixed mirror.

9. The apparatus of claim 5, wherein the rear mirror is formed in a hemispherical shape having a curved shape.

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10. The apparatus of claim 9, wherein the bulb is positioned at a focal point of the curved surface of the rear mirror.

11. The apparatus of claim 5, wherein the rear mirror is made of a quartz material.

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12. The apparatus of claim 5, wherein the fixed mirror is made of a

ceramic material.

13. The apparatus of claim 12, wherein the fixed mirror is made of an Al_2O_3 , Si_3N_4 or AlN material.

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